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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Atty. Docket:

Mark *et al.*

871.0011 USU

Serial No.: 09/745,390

Art Unit: 2682

Filed: December 22, 2000

Examiner: Dao, Minh D.

Customer No.: 29683

Confirmation No.: 1123

Title: Method and Apparatus for Providing a Remote Keypad for a Mobile Station

APPEAL BRIEF

Commissioner for Patent
Mail Stop AF
Alexandria, VA 22313-1450

Sir:

This is an appeal brief in regard to the final rejection of claims in the above-identified patent application. A Notice of Appeal was mailed to the USPTO December 13, 2005. The fee under 37 C.F.R. § 41.20(b)(2) is enclosed. Please charge deposit account 50-1924 for any fee deficiency.

I. Real Party in Interest

The real party in interest is Nokia Corporation.

II. Related Appeals and Interferences

The undersigned attorney is not presently aware of any directly related appeals or interferences regarding this application.

III. Status of Claims

Claims 1 – 3, 5 – 9, 11 – 15, 17, 19 and 20 are pending in this application. Claims 1 – 3, 5 – 9, 11 – 15, 17, 19 and 20 have been rejected by the Examiner. The rejection of claims 1 – 3, 5 – 9, 11 – 15, 17, 19 and 20 is appealed.

IV. Status of Amendments

A Response was filed on October 13, 2005 after the final rejection and by an Advisory Action dated November 3, 2005 the Examiner restated the final rejection of the claims.

V. Summary of Claimed Subject Matter

Independent claim 1 is for a mobile station (20)(See Figs. 2, 3; page 3, lines 1 - 11), comprising: a communication part (See page 3, lines 1 – 2) that comprises a controller (21), an RF transceiver (25) and an antenna (6); and a self-powered information entry part (11)(See Figs. 2, 3; page 3, lines 2 – 4; page 4, line 19 – page 5, line 12); comprising a keypad or keyboard module that is detachable from said communication part and that is coupled, whether attached or detached, through a wireless link (11c, 23)(See Figs. 2, 3; page 3, lines 7 – 9; page 6, lines 2 – 6; 20 – 29) to said communication part for conveying keystroke information from said information entry part to said communication part (see page 3, lines 4 – 7; page 6, lines 5 – 6; page 7, lines 19 – 23).

Dependent claim 2 is for a mobile station otherwise according to claim 1, wherein said wireless link is comprised of an RF link (11c, 23)(See Figs. 2, 3; page 6, lines 2 – 13).

Dependent claim 3 is for a mobile station otherwise according to claim 1, wherein said wireless link is comprised of a Bluetooth link (11c, 23)(See Figs. 2, 3; page 6, lines 7 - 11).

Dependent claim 5 is for a mobile station otherwise according to claim 1, wherein said self-powered information entry part is powered by at least one solar cell (16)(See Figs. 2, 3; page 5, lines 3 – 12; page 6, lines 14 – 16).

Dependent claim 6 is for a mobile station otherwise according to claim 5, wherein said self-powered information entry part is additionally powered by at least one battery, where said at least one battery (11F)(See Fig. 3, page 6, line 29 – page 7, line 2) is chargeable by the at least one solar cell.

Independent claim 7 is for a self-powered keypad module (11)(See Figs. 2, 3; page 3, line 24 – page 4, line 2; page 4, line 19 – page 5, line 12), comprising an engaging mechanism (24)(See Fig. 2; page 4, line 22; page 5, lines 13 – 26) for being detachably coupled to a wireless communication terminal and an interface for being coupled, whether attached or detached, through a wireless link (11c)(See Figs. 2, 3; page 6, lines 2 – 13) to a wireless communication terminal for conveying keypad-

generated information from said keypad module to said wireless communication terminal (see page 3, lines 26 – 27; page 6, lines 5 – 6; page 7, lines 19 – 23).

Dependent claim 8 is for a self-powered keypad module otherwise according to claim 7, wherein said wireless link is comprised of an RF link (11c)(See Figs. 2, 3; page 6, lines 2 – 13; page 6, line 17 – page 7, line 6).

Dependent claim 9 is for a self-powered keypad module otherwise according to claim 7, wherein said wireless link is comprised of a Bluetooth link (11c)(See Figs. 2, 3; page 6, lines 7 – 11).

Dependent claim 11 is for a self-powered keypad module otherwise according to claim 7 powered by at least one solar cell (16)(See Figs. 2, 3; page 5, lines 3 – 12; page 6, lines 14 – 16).

Dependent claim 12 is for a self-powered keypad module otherwise according to claim 11, wherein said self-powered keypad module is additionally powered by at least one battery (11F)(See Fig. 3, page 6, line 29 – page 7, line 2), where said at least one battery is chargeable by the at least one solar cell.

Independent claim 13 is for a method for dialing a telephone number (see page 3, lines 15 – 23), comprising the steps of: providing a self-powered keypad module that is detachably coupled to a wireless communications terminal (11)(see Figs. 2, 3; page 3, lines 15 - 17; page 4, line 19 – page 5, line 12); entering information for

specifying a telephone number using a keypad on said self-powered module (See page 3, lines 17 – 18); and whether said self-powered keypad module is attached to or detached from said wireless communication terminal, conveying keypad generated information from said self-powered keypad module to said wireless communication terminal through a wireless link (11c, 23)(see page 3, lines 18 – 23; page 6, lines 5 – 6; page 7, lines 19 – 23).

Dependent claim 14 is for a method otherwise according to claim 13, and further comprising a step of powering said self-powered keypad module using a solar cell (16)(See Figs. 2, 3; page 5, lines 3 – 12; page 6, lines 14 – 16) located on said keypad module.

Independent claim 15 is for a mobile station (20)(See Figs. 2, 3; page 3, lines 1 - 11) comprising: a communication part (See page 3, lines 1 – 2) that comprises a controller (21), an RF transceiver (25) and an antenna (6); and a self-powered information entry part (11)(See Figs. 2, 3; page 3, lines 2 – 4; page 4, line 19 – page 5, line 12) comprising a keypad or keyboard module that is separate from said communication part and that is coupled through an RF link (11c, 23)(See Figs. 2, 3; page 3, line 7 – 9; page 6, lines 2 – 6; 20 - 29) to said communication part for conveying keystroke information from said self-powered information entry part to said communication part (see page 3, lines 4 – 7; page 6, lines 5 – 6; page 7, lines 19 – 23), said module comprising at least one solar cell (16) (See Figs. 2, 3; page 5, lines 3 – 12; page 6, lines 14 – 16) for powering said module, wherein at least one of said communication part and said self-powered information entry part are adapted for

being mechanically attached to one another and detached from one another (24)(See Fig. 2; page 4, line 22; page 5, lines 13 – 26).

Independent claim 17 is for a self-powered information entry module (11)(See Figs. 2, 3; page 3, line 24 – page 4, line 2; page 4, line 19 – page 5, line 12) that comprises a keypad or a keyboard and that further comprises an interface for being coupled through a wireless link (11C)(See Figs. 2, 3; page 6, lines 2 – 6; 20 – 29) to a wireless communication terminal for conveying user-generated keystroke information from said self-powered information entry module to said wireless communication terminal (see page 3, lines 4 – 7; page 6, lines 5 – 6; page 7, lines 19 – 23), said self-powered information entry module further comprising at least one solar cell (16)(See Figs. 2, 3; page 5, lines 3 – 12; page 6, lines 14 – 16) for powering said self-powered information entry module, wherein at least one of said wireless communication terminal and said self-powered information entry module are adapted for being mechanically attached to one another and detached from one another (24)(See Fig. 2; page 4, line 22; page 5, lines 13 – 26) and wherein when attached the wireless communication terminal and said self-powered information entry module communicate through the wireless link (page 6, lines 2 – 5).

Dependent claim 19 is for a self-powered information entry module as in claim 17, wherein said wireless link is a uni-directional link (11C)(See Figs. 2, 3; page 7, lines 24 – 25; page 8, lines 2 – 3).

Dependent claim 20 is for a self-powered information entry module as in claim 17, wherein said wireless link is a bi-directional link (11C)(See Figs. 2, 3; page 7, line 25 – page 8, line 3).

VI. Grounds of Rejection to be Reviewed on Appeal

A. Claims 1 – 3, 7 – 9 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent No. 6,687,518 to Park (hereinafter “the Park patent”) in view of United States Patent No. 6,115,616 to Halperin *et al.* (hereinafter “the Halperin patent”).

B. Claims 5, 6, 11, 12, 14, 15, 17, 19 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Park and Halperin patents as applied to claims 1 – 3, 7 – 9 and 13, and further in view of United States Patent No. 4,740,431 to Little (hereinafter “the Little patent”).

VII. Argument

A. Rejection of Claims 1 – 3, 7 – 9 and 13 under 35 U.S.C. § 103(a)

Claim 1

Claim 1 is reproduced here with emphasis added to show the subject matter which is neither described nor suggested by the references of record:

1. A mobile station, comprising:
a communication part that comprises a controller, an RF transceiver and an antenna; and

a self-powered information entry part comprising a keypad or keypad module that is detachable from said communication part and that is coupled, whether attached or detached, through a wireless link to said communication part for conveying keystroke information from said information entry part to said communication part.

Appellants at page 3, lines 9 – 11 of the Application note that the information entry part and keypad modules of the present invention are *self-powered* and require no power connection to another device:

“The keypad module further includes a source for providing operating power for the keypad module, where the source includes at least one photovoltaic cell used alone or in combination with a battery.”

Appellants make clear at page 6, lines 29 – page 7, line 2 of the Application that due to the fact that the information entry module is self-powered, when used in

combination with a battery, the information entry module of the present invention is capable of recharging the battery:

“An optional battery 11F can be used for powering the keypad module 11 under low light conditions. The battery 11F could be a rechargeable type that is recharged from the solar cell(s) 16.”

Thus, in the embodiments of the present invention, the information entry parts and keypad modules are self-powered by, for example, a solar cell alone or in combination with a rechargeable battery and need not be connected to another device for the purpose of being recharged.

The Examiner rightly acknowledges that the Park patent neither describes nor suggests a self-powered information entry part as required by claim 1. The Examiner is mistaken, however, in believing that Halperin rectifies this deficiency of the Park patent.

Appellants respectfully note that the Examiner submits that Halperin purportedly refers to a self-powered mode of operation at column 4, lines 13 – 18 (reproduced here):

“The keypad, physically separated from the hand set is operated analogously to conventional keyboard operation of modern cordless or cellular phones. In the first embodiment shown in FIG. 1, the keypad 16 has its own power source in the form of a battery, preferably a lithium thin film battery to minimize volume (space) occupied by the power source.”

The Examiner is mistaken. Appellants respectfully submit that the reproduced portion of the Halperin reference in no way either describes or suggests a self-powered mode of operation. Rather, the Halperin reference refers to a *battery-powered* mode of operation. Appellants note that Halperin likens the operation of the keypad 16 to the operation of conventional modern cordless or cellular telephones. Conventional modern cordless or cellular phones referred to in this portion of Halperin have to be returned to a cradle or plugged into an AC adapter in order to recharge their batteries and thus are not “self-powered”.

This follows from the meaning of “self-powered”. As set forth in the Merriam-Webster Online dictionary “self-” refers to “oneself or itself.” Accordingly, “self-powered” means powered “powered by itself”. As used by Appellants, this refers to the fact that Appellants’ “information entry part” is “powered by itself” which, in the case of Appellants’ preferred embodiment, is accomplished by a solar cell.

In construing “self-powered” to cover embodiments that are solely battery powered, Examiner is adopting a meaning for “self-powered” that is supported neither by the ordinary meaning of the phrase “self-powered” (as shown by the Merriam-Webster Online Dictionary) nor by the specification. It also violates the doctrine of claim differentiation, which supports Appellants’ construction.

The doctrine of claim differentiation also demonstrates that as used by Appellants, “self-powered” does not mean “battery powered”. Claim 6, which

depends indirectly from claim 1, recites “wherein said self-powered information entry part is additionally powered by at least one battery, where said at least one battery is chargeable by the at least one solar cell.” If “self-powered” already encompassed a mode of operation where the information entry part was solely battery-powered, claim 6 would be redundant. Only when construed in accordance with Appellants’ suggested construction does claim 6 make sense. “Self-powered” does not refer to “battery-powered”, but a “self-powered information entry part” *can* be used with an *optional* battery, as illustrated by FIG. 3 and the accompanying description.

Appellants’ invention provides for a simple device since the communication part to which the self-powered information entry part may be coupled need not contain circuitry either to monitor the power state of the self-powered information entry part or to recharge the self-powered information entry part.

Appellants respectfully submit that neither the Park nor Halperin references – which concern communications devices having detachable keypad modules – show any appreciation for this mode of operation. In fact, an embodiment disclosed in the Halperin at column 2, lines 61 – 63 requires that a detachable keyboard card be reattached to the handset so that a battery incorporated in the detachable keyboard can be recharged:

“A secondary battery B1 is provided on the keyboard card 16 and gets charged preferably whenever the main battery B2 of the handset gets charged.”

The fact that the battery needs to be re-charged in this way is indicative of the fact that the keyboard card 16 of Halperin is *not* self-powered. Thus, neither the Park nor the Halperin references show any appreciation for the modes of operation permitted by the self-powered information entry parts and keypad modules of Appellants' invention.

Appellants therefore respectfully submit that claim 1 is patentable and should be allowed.

Claims 2, 3, 7 – 9 and 13 stand or fall with claim 1.

B. Rejection of Claims 5, 6, 11, 12, 14, 15, 17, 19 and 20 under 35 U.S.C. § 103(a)

Claim 15

Claim 15 is reproduced here with emphasis added to show the subject matter which is neither described nor suggested by the references of record:

15. A mobile station, comprising:

a communication part that comprises a controller, an RF transceiver and an antenna; and

a self-powered information entry part comprising a keypad or keyboard module that is separate from said communication part and that is coupled through an RF link to said communication part for conveying keystroke information from said self-powered information entry part to said communication part, said module comprising at least one solar cell for powering said module, wherein at least one of said communication part and said self-powered information entry part are

adapted for being mechanically attached to one another and detached from one another.

Appellants respectfully submit that the foregoing arguments about the meaning of “self-powered” are equally applicable to claim 15. Examiner apparently is construing “self-powered” to refer to the incorporation of a battery for the purpose of powering the “information entry part”. “Self-powered” does not refer to battery-powered operation, but to the fact the information entry part of Appellants’ invention is capable of generating power, both for the purpose of powering the information entry part, and for re-charging an optional battery that may be used in combination with, for example, a solar cell.

In addition, Appellants respectfully submit that it is impermissible to combine the Little patent with the Park and Halperin patents in order to arrive at the subject matter recited in claim 15.

First, as the Examiner admits, the Park patent says nothing about how an information entry part may be powered. Second, Little neither describes nor suggests how to modify an information entry part with respect to how it is powered, for Little does not discuss information entry parts. Third, the Halperin patent teaches away from the combination suggested by the Examiner since instead of providing a self-powered detachable keyboard alternative to redress the need to recharge batteries incorporated in its battery-powered embodiment, the Halperin patent suggests a *passively-powered* alternative:

To avoid the need for a secondary battery, as well as the need for the transmitter/receiver E1-R2 combination, one can also use a wired communication between the keyboard card 16 and the main body 10.
[Halperin patent, Column 3, lines 19 – 22]

* * *

One of the features of this alternative implementation is that the keyboard is passive; it does not have a power source or battery and no recharging is needed. [Halperin patent, Column 4, lines 10 – 12]

Thus, one of ordinary skill in the art having the Halperin disclosure in mind would not be motivated to combine the Little patent with the Halperin and Park references since for purposes of simplification the Halperin reference teaches to delete the battery of the detachable keyboard and adopt a passive mode of operation.

Further, the detachable keyboard embodiment of Halperin incorporating a battery apparently is charged when connected to the handset. Combining the disclosure of the Little reference with this portion of the Halperin disclosure would be impermissible for being both a hindsight combination made using the teaching of Appellants' own disclosure and for requiring a redesign of the Halperin reference in violation of MPEP § 2143.01 (proposed modification cannot change the principle of operation of a reference).

It would be impermissible hindsight because only Appellants' own disclosure makes the combination; the Halperin reference teaches away from it. It would require an impermissible change to the principle of operation because the battery incorporated

in the detachable keyboard of the Halperin reference is recharged by an external source – not by an internal source.

Appellant therefore respectfully submits that claim 15 is patentable and should be allowed.

Claims 5, 6, 11, 12, 14, 17, 19 and 20 stand or fall with claim 15.

Conclusion

In view of the arguments presented above, it is respectfully requested that the Examiner's rejection of claims 1 – 3, 5 – 9, 11 – 15, 17 19 and 20 be reversed.

Respectfully submitted,

February 13, 2006

Date

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VIII. CLAIMS APPENDIX



1. A mobile station, comprising:
a communication part that comprises a controller, an RF transceiver and an antenna; and
a self powered information entry part comprising a keypad or keyboard module that is detachable from said communication part and that is coupled, whether attached or detached, through a wireless link to said communication part for conveying keystroke information from said information entry part to said communication part.
2. A mobile station as in claim 1, wherein said wireless link is comprised of an RF link.
3. A mobile station as in claim 1, wherein said wireless link is comprised of a Bluetooth link.
4. (Cancelled)
5. A mobile station as in claim 1, wherein said self-powered information entry part is powered by at least one solar cell.
6. A mobile station as in claim 5, wherein said self-powered information entry part is additionally powered by at least one battery, where said at least one battery is chargeable by the at least one solar cell.

7. A self-powered keypad module, comprising an engaging mechanism for being detachably coupled to a wireless communication terminal and an interface for being coupled, whether attached or detached, through a wireless link to a wireless communication terminal for conveying keypad-generated information from said keypad module to said wireless communication terminal.

8. A self-powered keypad module as in claim 7, wherein said wireless link is comprised of an RF link.

9. A self-powered keypad module as in claim 7, wherein said wireless link is comprised of a Bluetooth link.

10. (Cancelled)

11. A self-powered keypad module as in claim 7 powered by at least one solar cell.

12. A self-powered keypad module as in claim 11, wherein said self-powered keypad module is additionally powered by at least one battery, where said at least one battery is chargeable by the at least one solar cell.

13. A method for dialing a telephone number, comprising the steps of:

providing a self-powered keypad module that is detachably coupled to a wireless communications terminal;

entering information for specifying a telephone number using a keypad on said self-powered keypad module; and

whether said self-powered keypad module is attached or detached from said wireless communication terminal, conveying keypad generated information from said self-powered keypad module to said wireless communication terminal through a wireless link.

14. A method as in claim 13, and further comprising a step of powering said self-powered keypad module using a solar cell located on said keypad module.

15. A mobile station, comprising:

a communication part that comprises a controller, an RF transceiver and an antenna; and

a self-powered information entry part comprising a keypad or keyboard module that is separate from said communication part and that is coupled through an RF link to said communication part for conveying keystroke information from said self-powered information entry part to said communication part, said module comprising at least one solar cell for powering said module, wherein at least one of said communication part and said self-powered information entry part are adapted for being mechanically attached to one another and detached from one another.

16. (Cancelled)

17. A self-powered information entry module that comprises a keypad or a keyboard and that further comprises an interface for being coupled through a wireless link to a wireless communication terminal for conveying user-generated keystroke information from said self-powered information entry module to said wireless communication terminal, said self-powered information entry module further comprising at least one solar cell for powering said self-powered information entry module, wherein at least one of said wireless communication terminal and said self-powered information entry module are adapted for being mechanically attached to one another and detached from one another and wherein when attached the wireless communication terminal and said self-powered information entry module communicate through the wireless link.

18. (Cancelled)

19. A self-powered information entry module as in claim 17, wherein said wireless link is a uni-directional link.

20. A self-powered information entry module as in claim 17, wherein said wireless link is a bi-directional link.